AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

" O fortunatos nimium sua si bona norint
" Agricolas." . . . VIRG.

VOL. II. BALTIMORE, FRIDAY, JULY 28, 1820. NUM. 18.

AGRICULTURE.

FROM THE PHILADELPHIA RURAL MAGAZINE.

AN ADDRESS,

Delivered before the Philadelphia Society for Promoting Agriculture: at its Anniversary Meeting, January 18th, 1820. By WILLIAM TILGHMAN, L. L. D.; *Chief Justice of the State of Pennsylvania, and one of the Vice-Presidents of the Society.*

[Concluded from No. 17, page 130.]

But, it is in our own power to increase the value of our lands by an improved state of Agriculture.—Much has been done, but much more remains to be done. Though not at the bottom of the hill, we have not yet ascended half its height. It may be encouraging, however, to stop for a moment, and take a glance at the progress we have made. Before the war of the revolution, little of science was blended with the art of agriculture things had gone on in their natural course. The counties first settled, now known by the names of Philadelphia, Delaware, Chester, Montgomery and Bucks, though not rich (except the meadows) were sufficiently so to yield good crops at first, and tolerable ones for a number of years. But the soil near the surface, composed of vegetable substances, accumulated during the lapse of ages, became at length exhausted by repeated tillage without refreshment. Red clover was introduced before the war, but it was produced in small quantities, and almost solely for the purpose of hay. The system of melioration by a rotation of crops, in which grass took its turn, was not understood. Natural meadow was in great demand, and not much hay being produced on the uplands, it was impossible to support during winter, a stock sufficiently large to amass a great quantity of manure. Consequently the crops of grain, and particularly of wheat, were much diminished.—Indeed, the *wheat* crops were trifling. Gypsum had been imported, in small quantities before the revolution; but it was very little used, and very little talked of; and that little not to its credit, for an old proverb said to come from Germany, was brought up against it, " *that gypsum made rich fathers, but poor sons.*" Notwithstanding this prejudice, it was brought into general use, some years after the war, by the persevering efforts of a few, *and principally of the President of this Society*, to whom future generations will render thanks for this important service. Through the efficacy of this fossil, the face of the country experienced a magic change. The uplands were clothed with rich herbage, to which succeeded plenteous crops of grain. I have not been able to trace with certainty, the progress of the cultivation of clover aided by gypsum, but I believe, that Philadelphia was the centre, from which it spread in all directions. In Chester county, so great were its effects, that (as I heard it proved in the trial of a cause at West Chester,) the price of lands was doubled in a few years.—Nor is there any reason to suppose that it was less beneficial in other places.

But as the excess of even a good thing may be pernicious, so may it be with gypsum. That it promotes the growth of many vegetables, and of clover in particular, is certain; though its mode of operation does not seem to be clearly understood. An increased quantity of grass, will support an increased quantity of stock, from which will proceed an increased quantity of manure, and that should be considered as the great end of gypsum Not that great advantages may not be derived from ploughing in the green clover.—But if that is relied on, as the only mode of meliorating the soil, (and in some publications which I have seen, it is asserted to be quite sufficient) we shall probably be disappointed. In Sir John Sinclair's Code of Agriculture, it is said that the practice of ploughing in green vegetables, as a manure, has been tried, in England, and found not to answer; and that more benefit is derived from those crops, when they are consumed by stock and converted into dung; and Col. John Taylor, (of Caroline county, Virginia) to whose valuable labours the world is so much indebted, is also of opinion, that we ought not to rely on green vegetables only. In the first edition of his *Arator*, he seemed to think, that nothing more was necessary than clover, but in the second edition, he acknowledged his error, which had been demonstrated by the result of two crops of Indian corn. In 80 acres of land, improved by turning in the grass, without other manure, the crop averaged 25 bushels an acre. But in 200 acres, where the clover was turned in and the ground also manured, the average was 50 bushels. It is probable, indeed, that the ploughing in of clover, may have a greater effect in many parts of the United States, than in England. For, that large crops of grain have been produced by it, is so strongly attested, that it must not be denied. This may be owing to the superior efficacy of the gypsum, which, no doubt, acts more powerfully here, than generally in England, and therefore produces a greater quantity of clover. But, as it is certain, that the manure of dung, incorporated with putrefied vegetable matter, is more efficacious than simple green vegetables; what I intend, is to exhort our farmers not to trust to the latter alone, nor relax their efforts to collect the former in as great quantities as possible.

Another important circumstance is to be attended to. We are not to expect that land will continue to produce luxuriant crops of clover, for ever, even when aided by gypsum. It would be contrary to the order of nature; which delights in change. Our *second* crop of clover, has, for many years, been of little value, though the cause remains unexplained. A gentleman of veracity, who lives on the Delaware, between eight or ten miles above the city, assured me, that gypsum, which had done wonders for a long time, had at length ceased to have any effect on his land; and that the same was the case of some of his neighbours. I am informed also, that the same remark has been made by farmers in Montgomery county. Now it is not to be supposed, that the gypsum has changed its nature, or lost its virtue.—But the earth, being exhausted of those particles which are favourable to the growth of clover, no longer offers to the gypsum the same matter to act upon. That the matter, necessary for the formation of a particular plant, may be exhausted, while the same earth suffices for the vigorous production of other plants, is proved by daily experience; and is in accordance with the best theory.

In a late English publication, there is an offer of a considerable premium to the person who shall discover a grass which shall be a good substitute for clover, it being understood that clover no longer grew as formerly; and of another premium to the person who shall discover the means of restoring lands, which once bore clover, to a capacity of producing it again. It would, therefore, be wise in us, to look out in time, for some grass, to take the place of clover, when it shall be found no longer to succeed. In the meantime, we may avail ourselves (and it may perhaps be a very long time) of the united efficacy of gypsum and clover.

I said that we had much to do before we attained that degree of perfection which was practicable in agriculture. I presume, that our lands, in their natural state, were full as good as those of England.—In England, the average crops of grain of all kinds, on 8,000,000 of acres, are estimated at twenty-four bushels the acre. I take this estimate from Sir John Sinclair, who says, moreover, that in " fertile districts and propitious seasons, from thirty-two to forty bushels of wheat an acre, may be confidently expected; from forty-two to fifty of barley, from fifty-two to sixty-four of oats, and from twenty-eight to thirty-two of beans." The best county in Pennsylvania, is supposed to be Lancaster. The matter cannot be spoken of with any kind of certainty; but, from the best information I have been able to collect, I should doubt whether the *wheat* crops of the whole county of Lancaster averaged more than fifteen bushels an acre, though many individual farmers get from twenty to thirty; and some from thirty to forty. But, when we compare the agriculture of two counties, we must take it in large masses. Penn's Valley, in Pennsylvania, is supposed to yield crops of *wheat*, averaging, at least, twenty bushels an acre; but that is owing to something peculiar in the climate; for the crops do not ripen in less than two weeks later than in most other parts of the state. The soil in Penn's Valley, is limestone, and the water lies very deep.

There is no doubt, however, that the agriculture of Pennsylvania is steadily improving, and is at present actually improved as highly as that of any state in the union. In buildings for agricultural purposes (perhaps too expensive) she is unrivaled; so that without being over sanguine, we may promise ourselves an annual increase of the value of our lands.—How this progress may be quickened, is a question which this society should keep constantly in view.—To devise the means of acceleration, should be their study.—To the first great step towards general improvement, the organization of societies in every part of the state, we have done what was in our power, by petitioning the legislature to take the subject into consideration, and aid the undertaking with the necessary funds. Nor is there any reason to doubt of success; for the legislature is always liberal when the general interest demands it. The institution of county societies, with the distribution of premiums, will be a powerful stimulus to the dormant faculties of thousands. The Eastern States, including New York, have already made the experiment with success; and I honour them for the example. Our Society, being situated in the capital, has the best means of correspondence; so that we can reciprocate information on agricultural subjects, with the different societies throughout this, and other states, and with countries beyond the sea. Hence will be collected a stock of knowledge, which being condensed and methodized, may be offered to the public with great advantage.

A pattern farm is an object we have long had at heart, and it is not to be relinquished. But the time is not come, for carrying our wishes into effect. At present, we have not sufficient funds; and to incur a debt, in our corporate capacity, without the means of payment, would justly dishonour us. But the want of a pattern farm may be in some measure supplied, by the exertions of members of the society, who possess farms within a few miles of the city. Some of them are blessed with ample means, as well as inclination, to give a fair trial to every improvement which can be rationally suggested, either in instruments of husbandry, the application of manures, or the cultivation of new plants, grains or grasses.

We may render ourselves useful, by collecting and diffusing the information contained in books recently published in Europe or America. In Europe the principal nobility and gentry are paying due honours to Agriculture. Chymistry has been called to her aid, from which important discoveries must result.—

Earths, minerals, and manures of all kinds are analysed. Philosophy is in the right path. Facts are first ascertained, and then accounted for. The increased power of magnifying glasses, lays open the hidden parts of plants, and minute animals. Hence may be discovered the *causes*, and consequently the *cure*, of many disorders by which plants are infested. Already it is asserted, (I vouch not for the truth of it) that the disease in wheat called the *smut* is no other than a parasite plant, which adhering to the seed wheat, grows with it, and may be destroyed by proper applications before the seed is sown. Perhaps some fortunate observer may let us into the nature of that scourge of Agriculture, known by the name of the Hessian fly, so that we may get rid of it as we did of the weavel fly, some forty years ago. Such a man would deserve a statue of gold, and I think the farmers would gladly erect it.

Another point of duty, to which we have not been wanting, is the importation of such foreign grains, grasses, and plants, as are suitable to our climate.—Of all the grains which now grow in the middle states, I recollect none but maize, (Indian corn) which is native Perhaps we have not yet collected all which might be profitably cultivated; and even if we have, a change of seed is of great importance. What wealth has flowed into the southern states, from cotton, which thirty years ago was scarce known there! Something new is always turning up, and we should be on the alert, to avail ourselves of it.

The Society has heretofore given admonition of the necessity of change in seed-grain. I do not mean merely the change of one grain for another of a different kind, (as *wheat* for *rye*, *&c.*) but a change of seed, where there is no change of kind. Farmers do not seem aware of this necessity, nor of the great advantage of procuring seed of the very best kind, and cleaning it in the most perfect manner. Or if they are aware, they are deterred from paying attention to it, by a little trouble and a little expense. It would be well to keep the subject before their eyes, until a conviction of its importance shall produce an alteration of practice.

The importation of foreign animals is not to be neglected. It is not the business of this Society, nor have they the means of importing them;—but they may point them out.—We have, in Pennsylvania, good horses; but in the best breeds of cattle, hogs and sheep, we are defective. I know that some enterprising gentlemen in the city have gone to great expense in importing cattle, and others are in possession of excellent breeds of hogs, but they are not yet diffused through the state. It is understood, that in the Eastern States, no pains or expense have been spared, in procuring animals of the finest shape and quality.—But it may be some time before they have a surplus for exportation.

We are well situated for obtaining models of all newly invented implements of husbandry. Our workmen are ingenious, and able to execute any thing which is planned for them; and the genius of our countrymen in the application of the mechanic powers, is conspicuous. The high price of labour, rendered its abridgment of primary importance. What wonderful effects have been produced by Whitney's cotton gin? We are well supplied with implements for breaking the earth, and for cutting all kinds of straw, and cheap machines for shelling indian corn. But a machine effectual for the threshing of wheat, and not too high-priced, is a desideratum. The machine for dressing flax, of British invention, is said to be a very great improvement, but is not yet much in use among us.

Roads, bridges, canals, and all internal public improvements, are subjects, which though not within our control, have such an immediate bearing on Agriculture, by expediting and cheapening carriage, that it will be always proper to do what little is in our power, for their success. Works of such magnitude are not to be executed, without the combined exertions of many persons, sanctioned by the authority of the legislature, and assisted by the public purse. Our legislature has done nobly for roads and bridges, and we trust it will do the same for canals. The first great object of that kind, is the junction of the waters of the Susquehanna and the Schuylkill, which empties into the Delaware. That being accomplished, we may look westward to the waters of the Alleghany, and northward to the Seneca lake, which being once entered, and entered it may be with no great difficulty, we have the Delaware connected with the great northern lakes, by means of the magnificent work now in rapid progress, in the state of New York. The project is grand;—I may not live to see it executed, but it is by no means so improbable as many things once appeared, which in my time have been accomplished.

Yet it must be confessed, that in canals, we linger behind other states, who have boldly led the way. Except the works now carrying on for the improvement of the navigation of the Schuylkill and the Lehigh, we have nothing to show but the Conewago canal of a single mile, which will be of little use, unless the Susquehanna and Delaware are united. Our tardiness may be accounted for. Five and twenty years ago, when the Conewago canal was begun, public spirit mounted perhaps too high. Great efforts were made, which, from causes not necessary now to mention, proved abortive.—Hence, a despondence on the subject of canals, from which we have scarce yet recovered. But it is high time to rouse ourselves. On the one side we have New York making great and successful exertions; on the other Maryland, endeavouring to avail herself of the road, made at the expense of the United States, from Cumberland, on the Potowmac, to Wheeling, on the Ohio; on which wagons travel free from toll. But, if we can have water carriage from Philadelphia to the Susquehanna, we shall be on a better footing than Baltimore; and preserve our wagon carriage to Pittsburg until the Susquehanna shall be joined to the Alleghany. This wagon carriage is of immense importance. It has been supposed, that between Philadelphia and Pittsburg, the yearly sum paid for carriage amounted to 730,000 dollars. Nor is this the only consideration. A very great sum is expended all along the line of the turnpike road, which is diffused through the country to a considerable distance. A six horse wagon consumes five bushels of oats a day, besides hay. Now, it appears from an official return, made by the keeper of the turnpike gate, at the Chestnut Ridge, between Stoys Town and Greensburg, that there passed through that gate, during the year ending May, 1818, among other things, 281 four-horse, 2412 five-horse, and 2698 six-horse teams; and it is said, that a gentleman, living on the road near Pittsburg, in the year 1813, counted the number of wagons laden with merchandize, which passed his house that year, and that they amounted to 4055. Through the counties of Bedford and Somerset, the road being generally on ridges, runs through a poor country, to which the market afforded by the wagons, is essential. Somerset abounds in *grass*; and for *oats* is superior to any county in the state. But the soil is not favourable to wheat; and except in the southern part, Indian corn will scarce arrive at maturity. It appears clearly therefore, that the Agriculture of Pennsylvania is very much interested, even in parts far west of the Susquehanna, in a water communication between that river and the Delaware, as the most effectual means of preserving the land carriage to Pittsburg. Another weighty consideration is, the protection which ought to be afforded to Pittsburg, against the effect of the United States' turnpike from Cumberland to Wheeling. Pittsburg ought to be to the western part of the state, what Philadelphia is to the eastern: the reservoir of wealth sufficient to afford a market to the surrounding country. There is no rivalship between these cities. The prosperity of one promotes the prosperity of the other. Why then should we hesitate? New York has completed one hundred and twenty miles of canal in less than two years and five months. By a line of less than half that length, the Delaware and Susquehanna may be united.

Pennsylvania has been accused of want of attention to gardening, and I am afraid she must plead guilty to the charge. A good kitchen garden contributes much to the health, and even the elegance of life; the saving of meat makes it a source of economy, and the neatness which is necessary to keep it in order, may have an effect on the *manners* of the family. The females might execute a good deal of the work, and for their sake it should be interspersed with flowers. I believe my feelings are not at all singular, and I declare that I am struck with a sensation of pleasure, at the sight of a flourishing, well enclosed garden. May I be allowed to add, that I have the same feelings, at sight of a neat enclosure in front of the dwelling house, separating it from the highway. With surprise and regret, I perceive this often neglected by wealthy and liberal farmers, merely because they have been in the habit of living without it. Such things might be remedied at a very trifling expense, but they are of no trifling consequence. They have an influence on manners.

I say nothing on the subject of *hedges*: their importance, and the best mode of raising them, have been fully shown by one of our Vice Presidents, on a former occasion.

The limits of this discourse confine me to *hints*, on subjects which merit *treatises*. May not means be taken to tincture the youthful mind with the spirit of Agriculture? In *colleges*, natural philosophy and chemistry might sometimes be directed to that special purpose. But something may be done at an *earlier age*: particularly where opportunities are offered in teaching the learned languages, which being acquired slowly and with difficulty, leave lasting impressions; for instance, besides the Georgics of Virgil, which are in general use, select passages might be read from Columella, one of the most ancient writers on rural affairs, which have reached us, in the Latin tongue. I am afraid mischief is done by putting into the hands of boys, those finished models of Grecian and Roman eloquence, in which are painted, in too vivid colours, the pleasures of wine and love, and the glory of war.

Having touched the subject of education, I will add, that when the benevolent intention of the constitution of Pennsylvania, shall be carried into effect, by "*the establishment of schools throughout the state, in such manner that the poor may be taught gratis*," agriculture will reap her full share of the benefit. Reading, writing, and common arithmetic, if not essential, are very serviceable to the farmer. And even the labourer will derive incalculable advantage from the improvement of his intellectual faculties. Work cannot be continued without intermission, and time hangs heavy on the mind which is torpid during the hours of repose. Exercise is as necessasy to the mind as the body. How desirable then, that men should be qualified for that kind of reading which gratifies and strengthens the mind, without the fatigue of severe study, while the body is at rest during the intervals of labour? Our legislature is not unmindful of the duty imposed by the constitution—the act "to provide for the education of children at the public expense within the city and county of Philadelphia," is working great good. By the first annual report of the controllers of these schools, made in February last, it appears that 2845 children were then in a course of education; and I am informed that the number is now much increased. Moreover, a most important fact is established—that by adopting the Lancasterian mode of teaching, which will do in all thickly settled districts, the annual expense will not exceed *four dollars* for each child. Upon efforts like these the blessing of God may be confidently hoped for.

Nothing can be more effectual for the diffusion of the spirit of Christianity, than a moderate cultivation of the understanding. Men will thus become more mild, better content with the condition in which Providence has placed them, more attentive to their duties both moral and religious, more charitable towards each other, less jealous and vindictive in their feelings towards foreign nations, less prone to rapine, under whatever name disguised, and less easily dazzled by the false splendour of war.

Bu. I must indulge myself on this topic no longer, lest it seduce me from my main design.

Closely connected with Agriculture is the subject of leases. Though not so important in the United States, as in other countries, because the body of tenantry is smaller here, yet it is not undeserving of

attention. The leases generally in use, are for a short term, with a reservation, by way of rent, of a certain share of the produce of the land. This system is liable to two great objections. The shortness of the tenure, precludes all hope of improvement of the soil, and the mode of payment, (the rendering a share of the crop,) holds out inducements to fraud, which few tenants are able to resist. When the landlord lives upon the estate, he has some chance of checking the tenant, by obtaining an accurate knowledge of the amount of the crop; and if he is liberal, he may have something done in the way of improvement. But where he lives at a distance, the probability is, that the estate will go to ruin, while he receives but a small part of his due. The objections to long leases, for rents in money, are, that if the landlord parts with the possession for a long time, he may be injured by a bad tenant; that he precludes himself from the chance of a sale, if a good price should be offered, and that the great fluctuations in the price of grain, make it impossible to fix a rent in money without danger to both parties. Where a man has it in view to sell his estate, he may be right, in making a short lease; that case forms an exception to the general rule. But where he means, to keep it, the objection is removed; then, as to fluctuation of price, the matter might be easily managed, by reserving a rent of a certain quantity of grain, giving the tenant an election to pay the market price, in money, which might be more convenient than delivering the grain. That point being settled, a lease for a longer term, fixing the rotation on which the fields should be cultivated, with other proper covenants, would leave the landlord sufficiently protected, while it gave the tenant encouragement to meliorate the soil for his own interest. At the end of such a lease, the value of the estate would be increased, and the rent might be raised. With great deference I submit these remarks to gentlemen of the city, who have farms at some distance, or even in the neighbourhood, which are intended as a provision for their families.

One thing more remains, which I cannot in conscience pass by, and in which, perhaps the Society may find means to do some good. Can no method be devised, to check the inordinate use of spirituous liquors? This shocking habit strikes at the root of agriculture, by robbing it of the labour necessary for its support. It would be a waste of time, to enumerate the ills which flow from this disgraceful vice, because they are obvious to every one. Perhaps a small addition to the wages, would induce labourers to forego the use of this poisonous liquid; or they might consent to take as a substitute, beer, or cider, or some other harmless drink. The subject deserves the deepest consideration, and I cannot help hoping, that when societies shall be organized in the several counties, a plan may be formed, which being acted upon at once throughout the state, may greatly lessen, if not eradicate the evil.

I have endeavoured, gentlemen, to obey your commands, in hopes that my example may call forth the efforts of others, better qualified to do justice to the subject.

FROM THE MASSACHUSETTS AGRICULTURAL JOURNAL.

ON THE ADVANTAGES OF

Oxen in preference to Horses.

Brighton, 10th Feb. 1820.

Dear Sir,—the decision of the Committee on the last ploughing match, caused some adimadversion, in consequence of their rejecting the performance of Mr. Derby's plough on account of his *horse* team. It has also led to inquiries, as to the relative merits of oxen and horses for *road* teams; and as you will observe, that the Trustees have excluded horses from competition at the next ploughing match, it is desirable to collect all the experience possible of the advantage of oxen in preference to horses for the *road*; and I believe, sir, no person can afford more practical information on the subject than yourself, from the important use made of ox teams in the war of the revolution, particularly while you was quarter-master general.—Though a stripling at that period, I can well recollect that the principal transit of stores and provisions for the army, from New England, was performed by ox-teams. This fact was confirmed by Dr. Eustis in a late conversation relative to the present object of inquiry, who at the same time remarked, that the heavy ordnance intended for the siege of York-Town, could not, without great delay and difficulty, have been brought up, had not the quarter-master-general had the *foresight* to order *oxen* from New England for that service. These facts are, in my opinion, of importance to the Agricultural interests of the nation, and should be promulgated.

Will you have the goodness, sir, to communicate such information on the premises, as may occur to your recollection.

With particular esteem,
I am respectfully, yours,
S. W. POMEROY.

Hon. Timothy Pickering.

Wenham, Feb. 29, 1820.

Dear Sir,—It was not till yesterday that your letter of the 10th instant came to my hands. With pleasure I comply with your request, by communicating what knowledge and information I possess, of the use and value of oxen for the road, and for all the labours of husbandry.

You particularly mention the employment of ox-teams, in the public service, in the war of our Revolution. The considerable destruction of horses in the operations of the war, and the great expense of procuring and supporting them, induced me, in the winter of 1780—81, (at which time I held the office of quarter master general,) to cause ox teams to be provided for the campaign of 1781. These were obtained, of course, in New England, where alone they could be furnished: and they fully answered my expectations.

When in August, 1781, disappointed in the expected co-operation of a French fleet, against the enemy in New York, the commander-in-chief decided on the expedition against the British army under lord Cornwallis, in Virginia, I received his orders to provide for moving the troops destined for that service. The ox teams effectually performed the transportation of baggage and stores, to the points where they were relieved by water conveyances. From the head of Elk in Maryland (sixteen miles eastward of the Susquehanna,) to Jame's river in Virginia, the ox-teams (without loads,) travelled expeditiously. The heavy artillery, shot, shells, &c. brought from the head of Elk, by water, were landed on the shore of James' River, I think at or near James' Town, whence they were transported by the ox-teams, to our camp before Yorktown, a distance, I believe, of about fourteen miles. In the performance of this service, those teams were of essential importance.

The late Col. Jeremiah Wadsworth of Connecticut, (one of the most judicious and efficient men in business that I ever knew,) was then the contractor for supplying the French army with provisions, teams, carriages; in a word, with every thing necessary for it, in the quarter-master's and commissary's departments. I introduce his name, because he had provided a great number of ox-teams and wagons, for the use of the French army during the same campaign and these also travelled to Virginia.

I always understood that the great transportation of provisions and stores, from Massachusetts and Connecticut to the troops on Hudson's river, was almost wholly performed by ox-teams, during the war.

Just at the close of the war, in the summer of 1783, I recollect being at the house of an Agricultural gentleman of Princeton, in New Jersey, where Congress was then sitting; and that Charles Thompson, the Secretary, was present. One of Arthur Young's Agricultural Tours, in England, lay on the table, and gave rise to a conversation on the use of oxen for the draught, particularly when geared with collars, hames, and traces, like horses; and Mr. Thompson, related the following fact, now, for substance, perfectly in my recollection. Travelling in that part of Chester county, in Pennsylvania, which lay between Lancaster, in that state, and Newport on Christian Creek, Mr. Thompson fell in with a team of a novel character in that country, being composed of one pair of horses and one pair of oxen: *and the latter were accoutred with harness like horses, only with the collars turned upside down.* His curiosity being excited, he stopped, and made some inquiries; and received from the driver an account as follows; that he and a neighbour, each having a horse team and wagon, had entered into a contract to transport a quantity of flour, (I think in a given time,) to Newport; that in the midst of the work, one or two of his horses failed, (fell sick or died,) and he was not in circumstances conveniently to procure others; but he had a pair of oxen, and he concluded to try whether they would supply the place of his horses; that he made the experiment and succeeded. He told Mr. Thompson, that the oxen were more useful to him than horses; for after some fall rains when the roads had become miry, he continued to carry his full complement of barrels of flour, while his neighbour's horse team frequently getting *stalled* (the familiar term in Pennsylvania, when a team gets set fast in a slough) compelled him to lessen his loads. But he added, that in returning from Newport with their wagons *empty*, his neighbour had the advantage in *speed*; although none in the actual performance of the contract.

Horse-teams for the *road* are universal in Pennsylvania; at least, in the many years I resided there I do not recollect observing any other. But I have noticed some of their teams of large horses travelling at as slow a rate as any loaded ox-teams in New England.

I have been inclined to entertain the opinion (perhaps an erroneous one) that oxen might be trained beginning with their first acquaintance with the yoke) to a greater quickness of movement than is common; and that this might be rendered habitual.—I have seen a pair of oxen in a plough keep pace with another plough drawn by a pair of horses. And Sir John Sinclair, in his account of the Improved Scottish Husbandry, mentions two distinguished farmers, of the name of Walker, who, contrary to the general practice of their neighbours, persisted in the use of ox-teams, as profitable on their farms. Two oxen, harnessed like horses, in a plough, performed the same labour, without losing a turn. After the experience of twenty years, these farmers pronounced oxen fit for every agricultural labour, travelling on *hard turnpike roads* excepted.

It would seem that horse harness is generally, if not universally used for oxen in Scotland, the collars being reversed. Sir John Sinclair says "the principal objection to the use of oxen is the difficulty of shoeing them." The facile mode of shoeing oxen in New England, would remove that objection: and I take the liberty of suggesting the propriety of the Trustees of our State Society of Agriculture, communicating to Sir John, a drawing and description of our simple frame and apparatus for shoeing oxen, for the information of British Agriculturalists, to whom we are so much indebted for instruction and examples in the most approved practices in Husbandry.

I subjoin from Sir John Sinclair's book, his statement of the expense of supporting *one plough*, in Scotland.

Mr. Brown of Markle keeps twenty work horses.

The food of each, in 1812, was	*l.*35	0	10
Interest of money, wear and tear,	7	10	0
The same for the second horse,	42	10	10
Horse tax, smith's account, and keeping in use harness and implements,	12		
Total expense for one pair of horses,	*l.* 97	1	8
The ploughman, including all emoluments,	38		
Total expense of one plough, in Sterling money,	*l.*135	1	8

In dollars, 599 72: only 28 cents short of $600.—For the horses alone *l.*97 1 8, equal to $431. Does the support of a pair of good working oxen cost a New England farmer more than a fourth part the latter sum? It is true, that the open weather of a British winter enables the farmers to plough and do

other farm work during a good, or perhaps the greater, part of that season; and consequently their horses require good feeding then, as well as in other seasons.

The WALKERS break their steers for work at three and a half years old, and work them till they are six and a half, when they are fattened. "The ox improves, (Sir JOHN remarks) until six or seven years old; and is then easily fed and brought to market, at a greatly increased weight and value." Another Scotch farmer breaks his steers at two years old, giving them only light work so as not to prevent their growth. At that early age they will be more docile. Such, and for the same reason, I suppose, is the common practice of New England farmers. Besides that an ox ceases to gain in size after he is six or seven years old, he perhaps begins to abate somewhat in his activity; and both these reasons may operate with the WALKERS then to fatten them.

I am pleased that the Trustees of the State-Society, "have excluded horses from competition at the next ploughing match. We have done the same for our first essay in Essex: because we would not encourage the substitution of horses for oxen, in the great labour of a farm.

I am dear sir, with great esteem,
Your obedient servant,
TIMOTHY PICKERING.

S. W. POMEROY, Esq.
First Vice-Pesident of the Massachusetts Society for promoting Agriculture

---

Wenham, April 22, 1820.

DEAR SIR,—Since the perusal of your letter of the 3d instant, in reply to mine on the subject of ox-teams, there has occurred to my recollection a paper, to the same point, in the first volume of the Memoirs of the Philadelphia Society, for promoting Agriculture; it is a letter from William Ashford, to John Vaughan, Esq. Mr. Ashford, says—"There is another thing in which I was wrong in not taking your advice, viz. not keeping oxen instead of horses: this spring all my horses became sick, and I was forced to buy a pair of oxen. I supposed I should be tired of them; but on the contrary, I am tired of horses; as I find that with my two oxen, I can do more work than I could with four horses, and with half the expense. I have worked horses for forty years, and if I had used oxen in their place, they would have put five hundred pounds in my pocket. My oxen go to the lime kiln once a week, twenty-one miles, in the morning, and return the next day in the forenoon: after resting two hours, they go to work-horses cannot do this."

This testimony of an experienced farmer of Pennsylvania, whose prejudices were opposed to the use of oxen for labour, and where horses, with very few exceptions, constitute the farmers teams, is peculiarly valuable.

I am dear sir, with great esteem,
Your obedient servant,
TIMOTHY PICKERING.

S. W. POMEROY, Esq.

Some remarks on Lupinella,

On sowing wheat after corn, and on the use and comparative value of Oxen and Horses.

TO THE EDITOR OF THE AMERICAN FARMER.

MR. SKINNER,—As a considerable space in your valuable paper, has been filled with conjectures as to the true name and qualities of the plant that has been lately introduced from Leghorn, under the name of *Lupinella*, it may afford satisfaction to some of your numerous readers to know from unquestionable authority that the plant called by that name in Tuscany, is the *Trifolium Incarnatum* of Linnæus.—In Simonde's *Tableau de l'Agriculture Toscane*, a most valuable and interesting work written as the title imports on the agriculture of Tuscany, the Lupinella is frequently mentioned as a plant much cultivated there, and is so described. The writer being a highly distinguished literary character,* and having resided for several years in Tuscany as a cultivator of the soil, it is hardly possible he can be mistaken. He speaks of it as an annual plant, sown in September, and mown in April or May, and as occupying nearly the same place in their course of crops, that the common red clover does in ours; whether it is the most valuable plant of the two, and whether it would withstand the cold of our winters, or could be sown in the spring and cut in the autumn; I can only conjecture, but am rather inclined to think there must be objections to its being cultivated in a colder climate than that of Tuscany, as *Du Hamel* in his *Lettres Ecrites de l'Italie in* 1812 *and* 13, frequently mentions the *Trefle faruch*, which is undoubtedly the same plant, as being much cultivated south of the Appenines, and speaks of the clover without the appellation *faruch*,† by which I presume he means the common red clover, as belonging to the most general rotations of crops in the north of Italy.

Neither of these works I believe is often to be met with in this country; the first was published at Geneva in 1801, and is well known in England, and is spoken of in terms of high commendation by reviewers and writers on agriculture in that country, and the latter, published at Geneva and in Paris in 1816, is a work of merit. They give a minute and interesting, and I doubt not accurate account of the state of husbandry in Italy, and perhaps a more favourable one generally than most of your readers would expect. I know not whether they would bear the expense of printing in this country, (the first and I believe the second has been translated and published in England) but they would give information with respect to some practices in husbandry that are not known here, and yet might be suited to the soil and climate of the middle and southern states. One practice which is very general with us, and which some judicious and well informed agriculturists strongly object to, that of sowing wheat immediatly after a crop of Indian corn, is sanctioned by the opinion of these writers and the general usage in the southern parts of Italy, and I cannot but think, that the usage in both countries is right, where the climate will admit of cutting up the Indian corn and afterwards ploughing and seeding wheat in the same manner as on a fallow; this may be done in due season in the eastern and southern parts of Virginia and Maryland; whether it can be done in Pennsylvania, I am unable to say.

This subject brings to my recollection the opinion of another foreign writer of great celebrity, upon a question that has been much canvassed in your paper; whether horses or oxen are preferable for the plough? In the middle states horses I believe are very generally employed, while in New-England oxen are almost universally preferred, and most of the writers whose opinions are given or quoted in your paper, are in favour of the latter. In England, while the cultivators of the soil very generally, use horses, most of those who write on the subject condemn the practice, and strongly recommend the employment of oxen. In the old edition of the French Encyclopædia under the article *Fermier*, is an Essay by the celebrated *Quesnay*, (who has been called the *Father of the Economists*, and to whom Adam Smith is said to owe many of the principles contained in his Wealth of nations,) written in order to prove that horses are greatly preferable in agriculture to oxen, and that the general use of the latter in France is a public misfortune, occasioned by the poverty of the farmers. The subject is treated at large and as might be expected, with much ability, and there are arithmetical calculations shewing clearly if the *data* are admitted, the great superiority in nett profit of horses.—I do not send you a translation, as well from want of leisure as because it might occupy too large a space in your paper.—The work no doubt can be met with in Baltimore. My own opinions on this subject are of no authority, and are probably of no value; but I am strongly inclined to think that the practice in France, and in England, in the wheat country of the middle states and in New England, although opposite to each other, grow out of the situation of these different countries and their inhabitants. In the greater part of France oxen were used from necessity; the *metayers* or *farmers on shares* by whom the lands were generally cultivated, having too little capital to provide horses. In England where there is no want of capital the farmers prefer horses, as though they cost more and are maintained at a greater expense, they do much more work and on the whole yield a greater profit. In the New England states there being much more land occupied in pasturage and meadow than under the plough, they have large stocks of cattle and little or nothing is lost by working their steers till they are of a fit age for the slaughter house, and the plough being subject to frequent interruptions, and a slow draught through an uneven soil encumbered with stones, oxen are peculiarly fitted for that work, while in the wheat country of the middle states, where a large proportion of the lands must be subjected to the plough at particular seasons and within short periods, horses are generally much more useful for this purpose than oxen. Indeed the form and action of the horse compared with that of the ox, would leave little doubt of the superiority of the former, wherever strength and long continued exertion should be wanted. Most of the calculations which go to show that oxen are preferable to horses proceed on the admitted fact, that an ox costs less than a horse and is maintained at a smaller expense; but I think without a sufficient allowance for the greater number of the former that must be employed to do the same work, and the additional number of hands that they require.—Still there are various uses in which oxen may be employed on a grain farm to advantage, as in hauling wood, grain, hay, manure, &c. when the draught is slow, and frequent interruptions to load and unload afford time to rest, and when not wanted for other purposes, they may occasionally be employed with the plough or harrow; but any judicious

---

* Author of a celebrated Historical work on the Italian republic.

† The word *faruch*, I think is certainly not Italian, and I cannot find it in any French Dictionary: probably it is a provincial appellation in the south of France.

an active farmer preparing in the hot months of August and September for a large crop of wheat, on lands free from roots and stone, I believe would have very little hesitation in giving the preference to horses on a fair comparison. These loose hints are hastily thrown together, you will make whatever use of them you may think proper.

ONE OF YOUR SUBSCRIBERS.

FOR THE AMERICAN FARMER.

Geography of Botany,

Or the effect of climate on Corn and other productions of the earth.

Essex, June 24, 1820.

DEAR SIR—I received your present of the Golden Sioux Corn a few days ago, for which be pleased to accept my thanks: it shall certainly have a fair trial. As this is the first leisure which I have had since, I could not sooner reply to your inquiries—"whether plants do not change character by transplantation, and accomodate themselves to climate? and whether this corn, for example, will not take advantage of the long summers of the South, and give itself more time accordingly, for coming to perfection?" Investigations of this kind belong to what has been called "Botanical Geography" a branch of science, comparatively speaking, of very recent origin; and one to which, I believe no person in our country has yet devoted sufficient attention to have collected facts enough for forming any thing like a rational theory. At least I can answer positively in regard to myself, by saying that I have no knowledge derived from my own experience, which would enable me to give you any satisfactory information. The little, however, which I know of the opinions and researches of others in this interesting study, I will communicate with pleasure, as it may be the means of eliciting from those who are much better informed, some details which may lead to useful practical results. M. de Humboldt, and Monsieur De Caudelle, appear to be the individuals who have most distinguished themselves in this science; and indeed they seem to have done all that dilligent research, accuracy of observation, and great sagacity of intellect, aided by much learning, could accomplish within the period which they have devoted to these inquiries. The latter according to his own account, spent six entire years in prosecuting through the different departments of France, such investigations as were calculated to determine with all attainable precision, the general laws by which the Geography of Plants is regulated. The 8th number of "The Journal of Science, and the Arts" contains a very interesting and instructive article extracted from the works of this writer, which appears to me to detail many facts, observations, and reasonings applicable to the subject of your inquiries. The whole taken together, seem to prove very conclusively, that although temperature arising either from climate or elevation, light, moisture and aspect, exercise each, a considerable influence over the growth of vegetables,—the distribution of heat in the different seasons of the year, has more power than any other cause whatever; and consequently that where plants have most heat in a given time,—supposing nearly equal moisture, they will mature soonest. The northern summers being much shorter than southern ones; and a certain quantity of heat being essential to the ripening of all vegetable productions, this quantity must be given, either by each day in the north, being actually hotter, than each corresponding day in the South; or by the heat of the northern summer-day being exerted, as is the fact, for a longer portion of the twenty-four hours, than the heat of the southern summer-day. In either of these cases the quantum of heat required for the maturity of plants within the limited time, would be received; and they would of course ripen sooner after their growth commenced, in high latitudes than in low.

I know not how the article alluded to, might suit the tastes of others, but I certainly have seen nothing of the kind, the perusal of which has gratified me more; nor do I believe you could well give any thing of the same nature in the American Farmer, which would generally prove more acceptable to that class of your readers who are anxious to extend the science of Agriculture so far as to embrace every thing connected with it.

I am, dear sir,
Your sincere well wisher,
JAMES M. GARNETT.

FOR THE AMERICAN FARMER.

St. Mary's River, Great Mill, P. O. June, 1820.

JOHN S. SKINNER, Esq.

SIR,—I duly received the several enclosures together with the small packet of Golden Sioux Corn you sent me, and noticed the request you were pleased to make for my ideas "on the effect of our long summers, upon this very early ripening corn of northern growth, and whether our climate would not cause it to degenerate?"—which I understand to mean, whether it would not grow and ripen slower, as well as yield less abundantly in the climate of Maryland, than in the north west region whence it comes? I felt thankful to you for the corn, but I was puzzled by your inquiry, never having given any particular attention to early ripening plants. However, your request induced me to think on the different causes and effects of the short northern seasons of vegetation, and the long southern season, in general without reference to the peculiarities of any one kind of plant; and such loose thoughts as have occurred to me, are all I can offer as an answer to your inquiry.

The circumstances under which vegetation commences and progresses in a climate far enough north, to limit almost all grains to one short season, to germinate, grow, and ripen, are these:—The snows and fast binding ice, in such high northern latitudes, seldom leave the ground uncovered and open during the winter, but continue to accumulate in large quantities. This accumulation of snow and ice, protracts the reign of winter, until the sun is well advanced on the zodiac, towards the northern tropic, and the days have become long and the influence of warm weather has become settled and completely predominant. This greater and more settled continuance of heat being necessary to free the earth, by dissolving the high incumbent banks of snow, and the deep fetters of frost, before vegetation can swell a single grain into motion. Thus the higher the latitude the shorter is the spring and autumn, and the summer and winter are nearly the only seasons far north. And I believe it is also true, that the higher the latitude the greater and more uniform is the increase of the temperature of the air from its commencement, to the highest degree of summer heat. These circumstances, causing in the out-set of vegetation a greater union of heat and moisture, and a more invariable increment of heat, are favourable to rapid growth. Again, the deeper the snows have been, the more deeply saturated will the earth be, when they disappear, and the more open, mellow and friable the soil. Moreover, snow is said to contain a considerable quantity of nitrous particles, and its water to have a greater tendency to putrify than rain water. These are also very favourable circumstances. We may then readily conceive, that when vegetation commences under so many more favourable circumstances in the north than in the south, that its first stage of growth must be much more rapid, than in the south. And I imagine, that the effect of the preceding winter's moisture is scarcely lost in the earth, or in the vapours, (which must rise and fall in mists and rain, for a long time thickly, from the deeply saturated soil exposed to a very warm sun,) before plants have nearly attained the size and strength, to dispose themselves to bear flowers and fruit.

Such is the early growth of plants in the north;* with us in a more southern latitude, vegetation commences, while "as yet the trembling year is unconfirmed;" and timidly advances amid continual checks from the frequent alternations of heat and cold.—And though we possess a richer soil generally than in the countries limited to one short season, yet vegetation commences with fewer advantages than in the north, and is more checked, and therefore progresses slower. In the next period of the growth of plants in northern latitudes, after the temperature of the air has arrived at the highest degree of summer heat, and when it is more than probable the greater part of plants have arrived at the critical stage of their growth, and are large enough to dispose themselves to bear fruit; these circumstances—1st. The excessive heat with diminished moisture while it lasts—And 2ndly. The decline or diminution of heat which immediately succeeds the acme of summer heat, occasioned by the declination of the sun, is no less rapid, and regular in decrease than was the increase of heat on the approach of the sun; both operate as checks to the further growth of plants and hasten their maturity. Premature ripening, occasioned by excessive heat and drought, as well as by too much cold, are circumstances of frequent occurrence as every farmer must know. The same thing occurs if plants are checked in their growth by being wounded. This is known to our tobacco plant-

* It will be recollected that my remarks are altogether general, and have no allusion to the country of the Sioux in the fork of the Mississippi and Missouri, which though more north, yet is a mild climate and highly fertile.

ers, who in the dread of frost split young plants while standing, to make them ripen. Fruit injured by birds or insects is the first to ripen, from the same cause.

From the above remarks we then see that the principles of vegetable life are these :—

1st. The more plants are favoured by the temperature of the air and the condition of the soil, and the fewer checks they receive in their first stage of growth until they attain the necessary size to bear fruit, the more rapid in that stage is their growth.—And 2ndly. The more checks they receive (provided they do not amount to destruction) in their second stage of growth, the shorter will be the time of forming fruit and ripening.—Consequently, if what I have said is true, it follows, that the higher the northern latitude, the shorter will be the whole time of plants growing to perfection.

Thus admirably has the God of nature ordered the laws of vegetable life, without any change or complication of principles to be suited to different climates.

The Golden Sioux corn you say is fit for use in 69 days, and dead ripe in 90 days.† In Lapland it is said, that some crops grown there, come to perfection in 21 days. In Norway it is said, that they sow and reap in the space of six or seven weeks. In the climate of Maryland, we have from 7 to 8 months, according to the year, for the growth of plants, and this period of vegetation is divided into two seasons of moisture, the early and the late. The hardier grains, as wheat, rye, barley, &c. by being sown in the autumn, and being in possession of the ground, avail themselves of the entire early season of moisture and heat, and ripen in the season when drought and heat prevail. The greatest growth of all plants which ripen on the approach of winter, is in the late season of moisture and heat. The common large Indian corn endures heat and drought, as well as wheat, &c. endure cold and snow, and that quality enables it to avail itself in part, of the two seasons of moisture; being planted in the first, existing through the mid-summer drought and heat, and making its greatest growth in the late season. This is generally the case with Indian corn, except when the early growth has been extraordinarily favourable, it then makes its greatest growth in the early season, and ripens in the beginning of the late season. The plants that enjoy the benefit in part of two seasons of moisture, are the best I think we have. All dwarfish plants, and dwarfish weeds and grasses, and all the lighter kinds of grain have a constitution which either cannot endure cold as does wheat, &c. or which cannot endure heat and drought as does Indian corn, and therefore are necessarily limited to a single season of heat and moisture, the early or the late, to complete their growth. Those whose constitution unfit them to bear cold, being unable to live through the winter, and those not fitted to bear considerable heat and drought, being unable to live through the mid-summer season. All the early ripening kinds of Indian corn that I have seen are dwarfish, and I suspect that the spring wheat, spring barley, and spring rye, are generally lighter in stock and grain, and have less saccharine juice, and are less nutritive than the winter grains of the same kinds.

Among the roots that occur to me, I think those which take the most time to come to perfection, are sweeter and more nourishing than those which are limited to one season. The parsnip, beet, and carrot are for instance more nourishing than the potato, turnip, and radish. Among the melons, the most nutritive and those that keep best are longest growing, as the common kind of pumpkin.

I do not so exactly know the properties of the grains and plants I have spoken of above, as to speak with precision about the relative merits of each. But enough I think I do know to settle a decided preference for the long growing plants over the quick growing, in common equal circumstances and soils, and keeping in view the general maxim of Chaptal, " that nature forms her productions, according *to all the circumstances* which may influence her operations."

The Golden Sioux Corn, will I think in this climate, require the whole of one season, the early, or the late, like the other kinds of early corn we have before had in use; if planted early in the spring, it will ripen in all July; if planted the last of July, or early in August, it will ripen on the approach of winter. But it is necessary to understand that although it is said and it may be true, that this corn will be dead ripe in 90 days, yet that these must not be any ninety days. But ninety days from the first of spring, or ninety days of the late season. The dwarf kind being unable to sustain so long a continuance of drought and heat, as occurs regularly in July or thereabouts, while the common kind of corn is rarely killed by the usual summer dry season. That is, you must be careful not to plant these dwarf corns, so as to throw the critical time of their growth during the common drought of summer; if you do, it will dwindle, ripen, or rather perish, and give very little, if any crop. This I know from experience, for I have planted some of these kinds so late as to lose the seed, although planted in the richest quarter I had in my garden. What then would have been its fate if I had attempted to replant with it, the missing hills of my corn field, where the land is poorer and worse cultivated than the garden? In the common time of the last replanting, that is in June, there is no doubt in my mind, but that the crop from these hills so replanted, would have been little or nothing. Therefore let farmers beware, when they attempt to replant with these early ripening dwarfish kinds of corn, otherwise they may lose every replanted hill. If they replant with it at all, it must be *after the middle of July*, so as to give it the late season of moisture and heat to form grain in. The crop from these early kinds of corn is scant and precarious; and even when two crops can be made in one year, as has sometimes been done, the two crops are scarcely equal to the single crop of the large common kind. Its utility then, I think principally confined to the garden.

It just occurs to me, and as what I am going to add, confirms what I have already said, I will mention it. The hot, bitter tasted species of plants, such as partake of the mustard flavour, of which there are many, which make their appearance very early in the spring, conform to the general principles I have attempted to give.—On the very first opening of spring, indeed when we are not sure, whether it is spring, or winter weather, the very first kind of plant which I have observed to put out leaves, is a very small dwarfish species of weed, tasting like weak mustard. This very little dwarf runs to seed in about 8 or 10 days. The next thing that makes its appearance, while yet nothing else has dared to vegetate in the open field, is another species of the same genus, in taste at least. This is rather larger than the first kind, but still very small; as well as I remember, it is about 3 or 4 inches high, in good ground, when ripe. This second kind requires a few weeks more to ripen; and this is followed by another kind requiring more time, and so on according to their size and good qualities.—The table mustard ripening last, being the sharpest, strongest, and finest flavoured, and longest in coming to perfection.

The earliest garden peas, such as the early frame, and hot spurs are dwarfs, small and delicate in haulms and pods, while the marrowfat and rouncivals, which are the largest and richest, are longest ripening.

If from those peas we required grain to feed stock animals, we should soon discover that the long ripening kinds would give in quality and quantity of grain and haulms, the best crop.—The Ruta Baga may be a hardier and better turnip, and therefore require more time to grow than the common turnip. But, if it is not, instead of the month of June, as recommended by Cobbett, the first of August would I rather think, here, be a better time to sow it. I have some of the Liverpool Ruta Baga, said to be a better kind than Cobbett's, on which I mean to make the experiment.

I am, sir, your obd't serv't,
ATHANS. FENWICK.

† So stated by the seller of the corn in New York.

SAINT FOIN.

TO THE EDITOR OF THE AMERICAN FARMER.

Belmont, July 15th, 1820.

SIR—On the receipt of your letter, with the stalk of the annual, or *Italian clover*, I immediately put it into the hands of our professor of Botany; under a hope that he could, and would furnish a more correct account of it, than I am capable of doing. But he has not favoured me with any reply to my request. I see in your several papers every thing our knowledge of the subject admits; and therefore any addition in my power, would be superfluous. But lest it should seem that I overlooked and neglected your very laudable endeavour to gain the information required for public benefit, I have deemed it right to apologize for the apparent inattention on my part. I think too well of your editorial merit, and of your paper, as a vehicle of Agricultural intelligence, voluntarily to neglect any contribution I could afford to its usefulness. And yet the zeal for the subject of Agriculture, and for the real independence, plenty, and comfort it produces, is so universally spread throughout our country, that an old labourer in the vineyard may be excused from further service; when so many cultivators, vigorous and intelligent, have come forward, with highly meritorious evidences of the most valuable kind of public spirit.

SAIN FOIN.

The *Hedysarum onobrychis—Sain foin, or Lufinella*, (entirely different from the Italian clover,) I know well, Mr. Crawford was pleased to send some of the seed to our Philadelphia Agricultural Society; and no doubt of the same parcel noticed in your paper. I wish I could give any agreeable or instructive

account of this plant, encouraging in its adoption in *our* country.—Where it will thrive, no provender can exceed it, in plenty and durability. I have, however, never been fortunate in its cultivation; although I have, in several periods of my life, tried it in every way, and in every kind of soil (common in our country) recommended in books, or gleaned from conversations with Europeans who came from the countries in which it abounds. When young it is the tenderest of plants. Weeds, grasses, droughts, and other annoyances, often overcome and destroy it. In its own countries, it is almost invulnerable, after it arrives at a proper age, when it exterminates other plants interfering with it. I have had no success in drilling; or sowing in broadcast and weeding by hand, or with hoes. Our winters are frequently fatal to it, when young and tender: and I have had it destroyed by frosts at three and four years old. It is a beautiful flower in the *parterre;* and I have continued it in my garden, wherein it was called *Cockshead* for many years. But I was often obliged to renew it from the seed. In Europe it will continue 20 years, and *that* in cold countries. I have, in my experiments from time to time, used many bushels of seed, both imported and of my own saving.

I was much mortified under my failures; supposing I had not skilfully managed it. But the late *Governeur Morris* told me it had been tried unsuccessfully by himself and others, in New-York and in some other part of our country, which, I forget. *My* failures ought not to discourage further trials. I deemed myself, however, bound to mention them, to warn against cultivating this plant, at first, on an extensive scale. It may succeed in better hands, and in some parts of our country more genial to its growth and culture. But it would be prudent to begin with small experiments, and extend the cultivation as it may be found successful. By cleaning and preparing the ground well, previously to sowing it much subsequent labour and expense would be saved.

After all it would appear that the Sain foin is but a substitute for less troublesome and better grasses: in lands wherein none others will profitably grow. Clay and wet sods are hostile to it, and rich grounds choak it in its infancy with weeds and natural grasses. Soiling it green, is preferred to saving it for hay, although both are practised. It is difficult to cure or keep. It is strong food, most proper for working horses; and cattle are most fond of it cut green; but care must be taken to prevent their eating it too ravenously, and becoming *hoven*. The hay is nutritive, but coarse and puffy; and that in proportion to the burthen of the crop, which is often two, and sometimes three tons to the acre.

Pasturing, the first year of its growth is injurious and not desirable at any time, although it is practised. We have superior grasses for grazing, in all stages of growth, to the Sain foin, yet it affords great abundance of forage where no other can be so plenteously obtained.

The culture is well worth attempting in mountainous, and second or third rate and light lands, wherein the root can penetrate deeply, for its roots extend to almost incredible depths, and the longer and larger the root, the more the plant will thrive.

In *Switzerland* and other such countries, Sain foin is a main dependence, because in many parts of those countries the finer grasses will not grow profitably. In *England* it is cultivated in their thin soils for the same reason. *Sinclair* notes it as indigenous in Britain.

The seed is very subject to being faulty, *because the plant is often cut before maturity, the hay being more valuable on this account.* From one bushel to five, accordingly as the seed is ripe, light, or heavy, are required for sowing an acre. Some recommend spring sowing, others seed in the autumn. It must be lightly covered. The seed is difficult to preserve, being apt to heat, and thus become worthless. Some sow it with grain; others disapprove of this mode. Sometimes clover is sown with it; and the clover, like a bad nurse, will often overlay and smother its *protégé*.

Drilling and horse hoeing are most generally practised to insure cleanliness; and frequent stirring the soil is essential—so that much labour is required in its cultivation; and its being sown in meagre soils such labour in the first stages of its growth, is indispensable. Yet, in some parts of Europe, large fields of it sown with grain, are to be seen in great plenty, without such expensive and laborious attention. I have not succeeded in this way.—*Dung* produces its foes—weeds and grasses—marl, ashes, and such auxiliaries are, in preference applied. I have failed by sowing imported seed, which is often like most others heated in the ship, or negligently collected, and ill prepared for transportation. It flowers in June, and ripens its seed in July, in this country. In Europe, much later.

Having repeatedly tried the culture of this plant, in drill and broad-cast, I found it to interfere so much with my other engagements, that I abandoned its cultivation. Where labour is cheap, and at command, it would make, however, an agreeable variety to cultivate a small spot with Sain foin, both for instruction and amusement. I do not hold my experience as exemplary, or in any wise as a test. But I have candidly given, so far as I know, or have learned from books or conversation, the debtor and creditor in relation to it.

France is accounted the country most faveurable to Sain foin, which in Europe is commonly called *French grass*. It is as often styled *sain* foin—*wholesome*, as *saint* foin, holy hay. *Luţinella* is to me, a new appellation. It is not of the same botanical class with the *Luţin;* though its flowers and leaves bear a distant resemblance to some of that tribe. Botanists must decide on the propriety of this nomenclature. Some seed of the *Lucerne* has been sent hither from *Italy*, under the name "*Luţinella*."

In the appendix to Sir H. Davy's Agricultural Chemistry, it appears by Sinclair's "Experiments on Grasses," that in grounds in which *clovers* grow thriftily, the *Hedysarum onobrychis* or *Sain foin*, grown on the same kind of soils, is inferior to the *clovers* of the best species, both in grass, hay and nutritive matter. But Sinclair conjectures, that on dry, hilly situations or chalky soils, "it would be superior in every respect." The corollary to be drawn from this is that the soils last mentioned, are good for Sain foin, and improper for clovers. The *Trifolium macrorhizum*, is astonishingly productive. It may be the same with, or equal to, that whereof you sent to me the specimen. It is a native of *Hungary*, and an annual plant: but more fit for use as green forage than for hay. It sheds abundance of seed, from which constant successions arise; sothat it is *quasi*, perennial. See pages xliv. xlv. of the appendix.*

With my best regards,
I am your obd't. servant,
RICHARD PETERS.

JOHN S. SKINNER, ESQ.

* *Sinclair's* experiments was made on *Sain foin* producing far under two tons to the acre. It lost almost two thirds in drying: and the nutritive matter in 3539 pounds of hay, was only 314 pounds. All the clovers are equal to it; and the T. macrorhizum exceeds it in weight of nutritive matter, as 5 to 67. In pages xlii, xliii, iv, v. and vi. the comparative weights of nutritive matter, between the Sain foin and other grasses may be seen.

On the Hessian Fly,

AND ON THE PROPER DEPTH OF SOWING *WHEAT.—No. IV.*

FROM THE INQUIRER.

I am indebted to a friend, for the perusal of a piece, in the National Intelligencer, of the tenth of January last, signed a Frederick county farmer, in reply to some remarks of mine, published not long since, in the Inquirer.

I there attempted to convince my brother farmers, that grazing wheat, was no security against the ravages of the Hessian fly. Nothing, that this Farmer has written, convicts me of error, although I am willing to admit my incompetency, to give the subject that deliberation, of which all its bearings may be susceptible. He certainly has not replied to the objections, there exhibited, against grazing. It was stated as my belief, that the maggot was inaccessible to a tooth, before the wheat could be grazed without destruction; that while the stock were feeding, the fly might be also depositing its eggs after them, with all the injury to the wheat, that it could have sustained, if it had never been grazed; and that any cause, tending to make the wheat later (and grazing produces that effect) might subject it to a spring attack of the fly, with all the other evils incident to a late crop. In answer to which not one word has been said by this writer.

For his own refutation, he has selected one paragraph, on which, he is pleased to think, I very much rely. In that paragraph the fact was stated, that a field of wheat, which had been previously fed down, was totally destroyed by the fly. In reply we are told, that the destruction was owing to the owner's not extending the same benefit to all of his fields. The Rappahannocker, no doubt rejoices that he could not. Fortunately for that gentleman, he can never follow the advice of the Maryland farmer, as he seeds from fifteen to eighteen hundred bushels of wheat annually; which, I suppose, would require more stock to graze, than he could conveniently collect in his neighbourhood.

In this opinion however, I may be mistaken, since this Farmer has not been so kind, as to inform the farming community, when they should commence the operation of feeding, nor how long it would probably take the stock, to finish catching all the maggots in so large a field; presuming that to be a part of their duty, as well for their master's sake, as from gratitude to the poor wheat, for the loss of all its blades. If the stock should not be able to accomplish this microscopic task, then let me warn all owners of wheat fields, by no means to turn stock in, particularly, if a little corn should be standing, lest they have fat meat and no bread.

The Frederick county farmer has great confidence, in the local and relative situation of fields intended for wheat. Once believing this opinion to be reasonable, I commenced, last fall to seed wheat, at least three quarters of a mile, from my stubble field. But all would not do, the maggots are as numerous in that, as in any wheat on my plantation. Let me ask the gentleman, whether locality or relative situation may not sometimes make against his grazing system?

I cannot help thinking, that as grazing is so nice an operation, it would be imprudent in any farmer to try it, until all his neighbours consent, to unite in the experiment, or at least, until it is better ascertained, how many miles, yards, feet and inches instinct may direct the flight of the fly, in search of wheat, in the proper state for their operations.

One of the minutest observers of the wheat fly in our country, who is a practical farmer, and knows the impossibility of eating down several hundred acres of wheat, in time to cut off the retreat of the maggot, recommends the experiment, on a feasible scale. This Farmer is

clear for sweeping the platter, grazing all or none. When Doctors differ so widely in their prescriptions, I hope it will be excused, if I follow the advice of neither, but with the leave of my brother farmer of Maryland, adhere to my former opinion, that grazing ought not to be tolerated under any circumstances!

A KING WILLIAM FARMER.

TO THE EDITOR OF THE AMERICAN FARMER.

Baltimore, 19th July, 1820.

SIR—I have just received a variety of turnip seed from England, among which are two kinds not known by us, or if known not cultivated for their superior excellence, One is called "The Globe Turnip," and the other the "Scotch yellow under ground Turnip."

The gentleman who kindly furnished me with these seeds, observes, "that they are with the Ruta Baga, the "best kind known to the English agriculturist. The "Globe is sown in England, from the 10th to the 20th "June, in ridges 27 inches apart, and should be worked with the horse-hoe, as soon as the plant appears "above ground; and when in a state to hoe they should "be set at the distance of 12 inches apart from plant to "plant, a little more, or less according to the situation "of the strongest plants, which the hoer will judge of. "The Scotch should be drilled on the flat at the distance of 16 inches, and hoed with a four inch hoe, and "the plants set not further apart than six inches, as they "never grow to a great size; but by setting them thick "in the rows, as great a weight may be obtained per "acre, as of any other kind; and no frost, not the severest will injure them, as they grow deep in the "ground. *For spring feed they are the best plant we have, "and indeed the only one to be depended upon, unless it be "the Mangel Wurtzel, which we house before the frost sets "in, and feed on in the spring.*"

I have distributed portions of these seeds to several gentlemen; and I think I cannot better fulfil the liberal views of the benevolent and patriotic donor*, than by disseminating them. As the editor of one of the best agricultural papers, possessed by this, or any other country, I take the liberty of sending you two quarts of seed, that you may distribute them to such of your subscribers as will cultivate them, and diffuse their benefits. The best time of sowing turnip seed with us, is different from that of England; what we have to contend with is drought; but as our vegetation is more rapid, we have more latitude. I should prefer about the 20th May for Ruta Baga, and if dry in July, the end of that month or the beginning of August, for other kinds.—Some useful hints on the subject of turnips having fallen into my hands; I will furnish you with them, that the American public may benefit by the experience of others.

With much respect, I am sir,

JOHN S. SKINNER, Esq. R. CATON.

* William Coke, of Holkham.

TO THE EDITOR OF THE AMERICAN FARMER.

In Rome's best days Imperial pride
To a palm tree the serpent tied,
As falsely on a medal stamp'd it.
"*Nemo antea Religavit;*" AUGUSTUS.

SIR,—Not hearing from the Sea Serpent lately, I thought to fill up the chasm of time, with a rough Peterpindaric dialogue; and in imitation of old Peter, I have given you the argument for a previous conception of the strain. P. P. Jun.

Jonathan prays the serpent to come near that he may ascertain whether he be Leviathan described in the book of Job. The serpent acknowledges the kindness of the invitation, attributing it sarcastically to a likeness of manners. Jonathan by this discovers the penetration of the serpent, and resorts to a common provincial oath, as security that he will not hurt even his skin. The word *skin* alarms the serpent lest it might be wanted for the Museum. Jonathan seeing the serpent so wily, resorts as the last expedient, to the *great oath* of New England, but all in vain, the serpent retires, after recommending Jonathan (so famed for wares and inventions) to make a likeness and set it up in the Museum.

JONATHAN.
Hail mighty monster of the deep,
Described by Job, though not of late,
Come near, O! let me have a peep,
And then go back thy voyage relate.

SEA SERPENT.
Your invitation is quite kind,
Relations quick their likeness find,
So we are call'd a slipp'ry race,
And ocean is our feeding place.

JONATHAN.
Now *jot me if I hurt your skin,*
Your form and length I wish to know,
And when that's done, off you may swim,
Leviathan's great strength to show.

SEA SERPENT.
We both were born on fish to feed,
Of my great skin you have no need;
Perhaps you might this hide strip off,
And boil my blubber on the wharf.

JONATHAN.
I'll swear by all my wooden bowls,
By all my onions, all my cheese,
By all the cod that swim these shoals,
My only object is to please.

SEA SERPENT.
Jonathan! your quick invention,
Can without the least contention,
Make a likeness quite as easy,
For the Museum and to please ye.

N. B. Soon after this Dialogue the public was favoured with a princely account of the king of the fishes. Though some say, it was no more a fish than a whale is, and every one knows a whale is "no more a fish than a man."

THE FARMER.

BALTIMORE, FRIDAY, JULY 28, 1820.

☞ No. 1 of abstracts from accounts of Northern Cattle Shows, is in type and will appear in our next.

☞ The Editor's compliments to his friend Jeremiah, *not Solomon*, Simple—he acknowledges Jeremiah's last epistle wherein Jeremiah discourseth not in a good hand about bad writing and divers other matters and things connected with agriculture; such as Dark Mud, the Printer's Devils, the family pride and claims of the renowned family of the Simples, manfully asserts his own identity and protests against his being confounded with his brother Solomon, and winds up with a learned disquisition, which we choose to consider and shall publish as No. 8, ON THE HESSIAN FLY.

Apprehending that Jeremiah was a "*practical man*," knowing more of a hoe than of Homer, it was not supposed by the Printer or the Printer's Devil, to whom we commit these matters, that he would discover such small mistakes as dark mud, for dock weed, and Solomon for Jeremiah: but alas, they find to use a cornfield phrase, they have got the "wrong sow by the ear," and would fain get back to the beginning and start fair again with Jeremiah, if they could.

Seeing our friend Jeremiah take so much at heart the loss of his dock weed, we overhauled the Printer's Devil to know how this unlucky mistake could happen, "verily," said he, "when I read the sayings of Jeremiah, I found them so unlike the sayings of any *other farmer*, that, it ran in my head he must be a true descendant of Jeremiah the Prophet; then," said he "I was reflecting on the fate of his old ancestor, who you know was thrown into a dungeon, 'and in the dungeon there was no water, but mire; so Jeremiah sunk in the *mire*;' and was it not a natural transition from mire to mud? and so I turned dock weed into dark mud; and if," added the Printer's Devil "your friend Jeremiah could as quickly convert his dock weed into dark mud, it would prove more profitable than raising wrens to eat his insects, and his radish seed, and crows to protect his corn." Thus stand and thus we leave Jeremiah and the Printer's Devil for the present.

For ourselves, all we can say is, that it was the depth and originality of Jeremiah's remarks, that made us think of wisdom, and thinking of wisdom, we thought of Solomon, and thinking of Solomon, we forgot his brother Jeremiah the Prophet.

THE BREWERY IN FAMILIES.

☞ The Pennsylvanians are wisely attending to the employment of their crops. They are the greatest *distilling* and *brewing* state in the union from all kinds of grain. In the July number of R. & C. Johnson's Philadelphia monthly "*Rural Magazine*," the process for family brewing is given with cuts, under the auspices of their long established and useful *Philadelphia Agricultural Society*. Grain should be manufactured, in the most improved manner, into superfine, common, middling flour and ship stuff, buck wheat and indian meals, firmity, great and small hominy, mush, sepaun or Indian meal, and other puddings, pies, tarts, dumplins, vermicelli, wafers, sizing, paste, treacle or syrup, beer, ale, porter, whiskey, geneva, all the breads, hard and soft, starch, hair powder, and every other form that good sense, ingenuity, art and science can from time to time devise to render our crops more pleasantly, conveniently, and profitably consumable and exportable. Much grain with its chaff, leaves, stalks and straw, should be converted, *by feeding*, into working and meat cattle, sheep, pigs, poultry and other full grown animals. The late ingenious and beneficial measure of breaking up our vast quantity of corn *cobs* or spikes, into food for cattle and swine, is a most valuable economical operation. The paper of our respectable correspondent, Dr. Calvin Jones of North Carolina, on this subject, merits particular attention. For this and the Philadelphia domestic brewing we are thus indebted, as is often the case to the *medical* faculty, whose modern learning gives the light of science to all our operations. Doctor James Mease, the editor of the Archives of Useful Knowledge, is understood to have bestowed his usual exertions on the getting up of this plan of *domestic* brewing. We take occasion to observe, that there is a great quantity and variety of useful *rural* knowledge, practice and instruction to be found in the Archives, which is yet sold by Mr. Hogan of Philadelphia, It is a valuable book for the libraries of societies, counties, towns, and individuals, and is almost sold off.

While we are on the subject of the employment of grain, we are led to observe, that Hayti has prohibited the importation of distilled spirits. We presume this is with a view to make rum like Jamaica and Antigua, from their own molasses. This measure will have the effect to render our sugar cultivation more valuable by increasing the demand for molasses, and it will help the cultivators of grain, fruit, hops, &c. wherewith to manufacture fermented and distilled liquors. It will have its influence on the manufacture of grain and fruit syrups, by the *evaporation* of the juices of fruits, and by Mr. Joseph Cloud's management of wheat in the manufacture of molasses. Whenever foreign countries keep from us their raw produce they increse the demand for our own for *unforced*, and everspringing useful and necessary fabrications.

Present Prices of Country Produce in this Market.

Actual sales of WHEAT—WHITE, 94 cts. —RED, 90 to 91 cts.—CORN, white 55 cts.—Yellow do. 52 cts.—RYE, 50 cts.—OATS, 31 to 35 cts.—HAY, per ton $15—STRAW, do. $7—FLOUR from the wagons, $4 75—WHISKEY, from do. 34 cts.—BUTTER, pr. lb. 25 cts.—EGGS, pr. doz. 15 cts.—VEAL, per lb. 6 to 8 cts.—LAMB, per quarter 37½ to 50 cts—BEEF, prime pieces 8 to 10 cts.—HAMS, 15 cts—MIDDLINGS 11 cts.—LIVE CATTLE, $6—CHICKENS, per doz. $2 to $2 50—POTATOES, 37½ to 50 cts.—TAR $2 50 scarce—TURPENTINE soft $2 to $2 25—SPIRITS do. 35 cts—ROSIN $2 plenty—PITCH, $2 50—BLACK EYE PEAS 65 to 70 cts. plenty—SHINGLES, best Deep Creek $8 50—Do. small $4 75 to $5—FLOORING PLANK 5-4 $26—London WHITE LEAD $4 25, American do. $3 75—Boiled OIL, $1 37½—FEATHERS, 50 to 62½ cts.—LARD in kegs 11 to 12½ cts.—COTTON, Upland, 17 to 18 cts.—Maryland TOBACCO, 2 hhds. from the neighbourhood of Friendship, Anne Arundel county, in this state, sold the present week for $10—Virginia TOBACCO, little in market, no sales.